

## Midterm Review

- I. File Systems Interface
  - A. Definitions
    - 1. file system
    - 2. attributes
    - 3. operations
    - 4. file descriptor
  - B. Access Method
    - 1. sequential
    - 2. direct
    - 3. index-sequential
  - C. Directories
    - 1. structure
    - 2. partitions
    - 3. device directory (disk)
    - 4. operations
    - 5. design considerations
    - 6. levels (hierarchy)
    - 7. path name
    - 8. trees
    - 9. acyclic graphs
      - a. symbolic links and hard links [Unix]
    - 10. general graphs
    - 11. mount point
    - 12. access lists and groups
      - a. chmod
      - b. chgrp
      - c. umask
- II. File System Implementation
  - A. File System Structure
    - 1. blocks versus fragments
    - 2. layered design
    - 3. on-disk structures
      - a. boot block
      - b. superblock
      - c. directory structure
      - d. FCB
    - 4. in-memory structures
      - a. per-process open-file table
      - b. system-wide open-file table
      - c. in memory directory structure
      - d. in-memory partition table
      - e. cached inode ilist

5. directory implementations
    - a. linear list
    - b. hash table
  6. file system implementation
    - a. contiguous - extents
    - b. linked list
    - c. indexed
    - d. FAT
  7. inode details
  8. superblock
  - B. Free Space Management
    1. bit map – Linux ext2fs
    2. linked list
  - C. Unified cache
  - D. Log files
  - E. SUN NFS
    1. mounting
    2. cascaded mounting
    3. NFS Architecture
- III Distributed Communication
- A. Network Types and OSI Reference Model
  - B. Remote Procedure Calls
    1. objectives
    2. steps
    3. marshaling
    4. stubs
    5. passing parameters